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ABSTRACT

Examining SQ3R research from 1953-1984, this paper provides an update of an earlier review of the literature that was taken from the ERIC database, "Psych Abstracts," and "Dissertation Abstracts." The paper divides the studies by educational level: elementary, junior and senior high school, and college/university. It presents observations based on the studies examined, including the following: (1) although training in the use of the SQ3R strategy seemed to positively affect learner outcomes, descriptions of the training included in most studies were sketchy to the point of being nonreplicable; (2) most of the studies were conducted with college students and only a few have dealt with elementary or junior and senior high school students; and (3) the typical study presented a variety of research techniques. The paper concludes by noting that the public might be served better if SQ3R and selected other techniques were studied in depth rather than having researchers indiscriminantly developing new techniques to compare with SQ3R. A four-page list of references concludes the document. (HOD)

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SQ3R: SURVEYING AND QUESTIONING THE RELEVANT, RECENT (AND NOT SO RECENT) RESEARCH

Paper presented at the Annual Meeting of the Great Lakes Regional Conference of the International Reading Association (6th, Milwaukee, Wi. October 17-19, 1985)

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ABSTRACT

This paper presents a summary of the SQ3R research conducted from 1953 (the 1st study) through 1984. Studies are presented in a tabular format by school level. Overall, SQ3R does not have definitive research support, but the authors believe that the techique is probably not at fault, rather the quality of the research has been poor. Observations are offered regarding problems in completed research and suggestions for future research. (This is an update on an earlier paper by the authors - ED 259 322.)

SQ3R: SURVEYING AND QUESTIONING THE RELEVANT, RECENT (AND NOT SO RECENT) RESEARCH

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This paper is an update of an earlier paper by the authors (ED 259 322 Spring 1984). It covers SQ3R research from 1953 - 1984.

Since Robinson (1961) originated the SQ3R concept in about 1949, numerous research studies (mostly doctoral dissertations) have been conducted regarding the efficacy of the procedure. Virtually all content area textbooks extol the virtues of SQ3R or some close cousin of the procedure. Yet some writers (Johns & McNamara, 1980 and others) have questioned the research evidence supporting the procedure. Indeed, an examination of the research, muddled as it is, does not provide definitive evidence of its usefullness.

SQ3R seems to be a member of an extended family. When one looks at the field of study procedures that have covered the American landscape since the origin of SQ3R, the similarity between them is striking. A survey of the research provides a view of a rather unique process that has evolved over the years. It seems that many, if not most, researchers have studied a modified version of SQ3R instead of or as well as SQ3R itself. Usually no rationales for the modifications were provided. Some researchers have also coined their own seemingly sanctimonious study procedure acronyms which almost parrot the SQ3R procedure. There seems to be no end in sight regarding the cloning of the SQ3R procedure. The authors have concluded that there probably is a need for birth control procedures to be implemented so that researchers can study the 'pure' SQ3R procedure without being caught up in studying a mishmash of procedures which results in very little useable practical information being disseminated.

Presentation of the studies follows with conclusions and observations following the studies.

RESEARCHER	METHOD	SUBJECTS	FINDINGS
ELEMENTARY			
BRAZEE (1979)	Social Studies - stressed survey step of SQ3R. SQ3R & rate flexibility taught 10 min. daily for 7 weeks	2 classes 20 6th graders in each.	SQ3R group better in comprehension & less wd by wd reading. However, study was contaminated.
ADAMS (1980)	3 groups: a) Modified SQ3R, b) Indep. Stdy, & c) Control. Training: 4 - 40 min. sessions with 5th gr. Social Studies.	3 groups of 15 each (45).	MSQ3R better than control, but not better than indep/Stdy. 2 wks later, MSQ3R gr. did not use all the steps - used simpler system.
SLADE (1980)	3 groups: a) Modified SQ3R , b) SQ3R & c) Control. 9 wk stdy-tching took 6 wks.	401- 6th gr.	MSQ3R & Control had more positive attitudes toward Science than SQ3R. No sign. diff. in Achievement.
FERRANTE-ALEXANDER (1983)	Varied SQ3R with direct instruction. 17 weeks with 35 hours per subject. Retelling was criterion.	4 LD children in 4,5 & 6 th grades	Study skill instruction improved retelling.
JUNIOR & SENIOR HIGH SCHOOL			
DONALD, Sr. M. (1967)	2 groups. 1 trained in SQ3R.	62 7th grade students in 2 classes.	S.D. on Teacher-made tests but not on Ach. Test. Favored SQ3R
HARRIS & Trujillo (1975)	3 groups: a) SQ3R & self-manage b) Discussion group c) Control	Junior High 22-s/manage 41- discuss.	SQ3R & Dis. had better GPA than control.

McNAMARA (1977)	3 methods: a) Cloze b) Modified SQ3R c) Lect/discussion Counterbalanced Design Trained 7 days incl. pre & post tests.	309 High Sch. pupils.	Tch/made 50 item M/C test. No S.D.
STOODT & BALBO (1979)	2 groups: a) Stdy. Skills including SQ3R b) Control	2 - 12th grade Econ classes.	Group A better than control.
POWELL & ZALUD (1982)	Adapted SQ3R work-sheets used. Study lasted 18 weeks.	16 subjects-ages 15-19-LD or mentally Handicapped.	Overall GPA on worksheets up 9-17 pts. (No statistical treatment.)
BUTLER (1983)	2 Studies: SQ3R with either 2 or 7 train. sessions & Control. Also meas. Rdg. Abil., Lit. Comp. & Scanning.	Stdy 1: 3 - 9th gr. Phy. Science. Stdy 2: 3 - 11th gr. History.	Neither 2 or 7 sess. train. in SQ3R improves scores. Retention depends upon Rdg. Abil.
GALLOWAY (1984)	Compared SQ3R & hm Stdy Skill Prog.-Level I (Mapping) with control group. Training: 6 - 50 min. sessions over 2 weeks.	321 7th grade students	No sign. diff.

COLLEGE/UNIVERSITY

WOOSTER (1953)	Quarter-length course. Ss did assign. using SQ3R.	29 University students.	No S.D. in rate or comprehen. Large change in note quality. Few Ss. used SQ3R as an integrated system.

WILMORE (1966)	4 Groups: a) Reading b) Underlining c) Outlining d) SQ3R	80 College students in 4 classes.	Underlining faster than SQ3R or outlining. SQ3R better than outlining.
NIPLE (1968)	4 groups: a) Read once (control) b) Use own method c) Use SQ3R after reading about it. d) Use SQ3R after practicing for 6 weeks.	35 in each group - college students.	No diff. on immediate or delayed comp. S.D. favored SQ3R with training on MAIN items. No diff. on DETAIL.
BRIGGS et al. (1971)	Ss. taught conditioning (Premack Method) and SQ3R. 2 groups - Exper. & control (10 each).	20 high risk college freshman girls on academic probation.	Exper. group had higher mean GPA S.D. at .05.
BENEKE & HARRIS (1972)	2 Groups: a) Group instr. of study skills with 4 SQ3R lessons. b) Indiv. Instr. at own rate.	38 College students.	No S.D. b/t groups
DIGGS (1972)	5 Groups: a) SQ3R b) Mechanized Approach c) Mech followed by SQ3R d) SQ3R followed by Mech. e) Control	80 Community college students	SQ3R superior on various measures.
HOLMES (1972)	2 Groups: a) Underlining b) SQ3R	41 College students in 3 sections	No S.D. diff. found.
GURROLA (1974)	4 Groups: a) SQ3R b) SQRR c) SQR d) QR	68 College Freshmen	SQRR more efficient than SQR

SCAPPATICI (1977)	3 Groups: a) SQ3R b) Select & Recite c) Control	109 college students in Econ classes.	No effect on final Econ grade. SQ3R used more than S&R Method.
EANET (1978)	3 Groups: a) REAP b) SQ3R & related skills 4 wks instruction & post-test in 6th wk. Study centered on annotation step of REAP.	105 college students.	REAP useful & used. Impulsive cog. style may profit most from REAP. Overall results did not seem to favor any single group.
ORLANDO (1978)	3 Groups: a) SMS (modified SQ3R) b) Reading Skills (RS) c) Control (CS) 5 weeks - met twice weekly for 75 minute periods.	Volunteer college students specially admitted to Penn State.	SMS group generally better on most measures.
OKEY (1979)	3 GRoups: a) Modified SQ3R b) Cornell Method c) Control	160 college students.	No S.D. b/t modified SQ3R & Cornell Method. Found some significant interactions with locus of control & methods.
HAISLETTE (1980)	Behavioral contracting effect on Study skill development. 2 main Groups: a) Public commitment b) Private commitment	Frosh/Soph students with GPAs below 1.99	No S.D. found.
BUTLER (1981)	SQ3R taught as one of several techniques.	115 Community college students.	Increase in course achievement.

(Researcher felt instruction time too low for sustained gains and study was predjudiced by disclosure of all methods to all subjects.)

FOREMAN (1982)	3 Treatments: a) Rdg/Stdy - with Management system b) Rdg/Stdy - without MS c) Reg. Rdg/Stdy & Prac. 12 weeks	3 Remedial Eng. classes	No sign. diff.
MARTIN (1983)	Centered on self-questioning of three study techniques: a) SQ3R b) Self-questioning c) REAP	95 college students.	Found REAP & Self-questioning were significantly different from SQ3R but meaning is unclear.
SNYDER (1984)	3 techniques tested: a. SQ3R b. Outlining c. Underlining	50 'Special admitted' college students -each used all techniques	Outlining was sign. diff from SQ3R & Underlining.

OBSERVATIONS

1. TRAINING: Training in the use of the SQ3R strategy seemed to positively affect the learner outcomes. However, descriptions of the training included in most studies were sketchy to the point of being nonreplicable. The great differences in the amount of training in SQ3R studies has created confusion regarding the question of how much training is necessary. Studies do not seem to have built upon the base of knowledge provided by previous researchers.

   The length of the training seems to be an important factor since many studies were rather brief (5-7 weeks). One might conclude that the subjects' regular method of study was extinguished and replaced by SQ3R and/or its offspring. However, the training periods were rather short and the procedure(s) most likely were not mastered at the automatic level which left the subjects with possibly less efficient strategies than they had started with. This might account for the fact that the control groups outperformed or performed as well as the treatments under study.

   Other aspects of training should focus on the reading skills that are actually involved in SQ3R such as skimming, scanning, paraphrasing, etc. Subjects need to be trained in the procedures for each individual step of the process. The *QUESTION* step of the procedure seems to need particular stress in any training procedure. If good questions are not formulated, then the entire process will suffer since the most valuable information will not be focused upon. This might be the key to the whole process. Students must be taught how to question before we can expect them to do it well and on their own. This is a prime concern when one looks at the recent focus on metacognition.

2. SUBJECTS: Most of the studies were conducted with college students and only a few have dealt with elementary or junior and senior high school students. The authors believe that if the process is to be

effectively taught, it needs to be taught early while students are still in their formative years of developing an internal system for attacking written expository material. Some particular aspects of subjects that seem to warrant more research attention are the reading abilities of the subjects (Do better readers do better with SQ3R?) and the attitudes of the subjects toward school and studying (Do more serious students perform differently than their less serious peers?). A final area of interest might be how subjects perform with the technique in the various content areas. Social Studies and Economics seem to have been the preferred areas to study. Other studies have dealt with 'College Reading Classes' which one might assume also to have centered on Social Studies type materials.

3. METHODOLOGY: There is much room for improvement here. The typical study presents a smorgasbord of techniques including SQ3R or its 'sister'. One gets the idea that everyone is looking for the *Tooth Fairy* to put a quarter under the particular pillow (the researcher's favored approach) being wished upon.

We need some long term studies instead of the 'WHO CAN GET OUT OF THE CHURCH THE FASTEST' studies which neglect sufficient training and application of SQ3R. After all, retention of ideas has to be the focus of these studies, yet, we only are presented with a view (faulty though it may be) of short term retention. We don't believe that the whole object of our schools is to pass some objective-based test and then forget about what our students have learned. One could come to this conclusion though if one only considers the studies on SQ3R that have been done.

The criterion measures that have been utilized for pre and post testing often have not been presented with needed reliability or validity information. Much work needs to be focused here!

The materials themselves have to more closely resemble materials that students will work with in the everyday classroom. We cannot continue to chop everything up into 500 word segments and rationalize the results to chapters, etc.

CONCLUSION

We do not know how well or how poorly SQ3R works. This seems to be the result of rather poorly-constructed research on the technique rather than the technique itself. The authors believe that the public might be better served if SQ3R and a few other techniques were studied in depth rather than having every other researcher conjuring up a NEW technique to be compared with SQ3R. Modifications should be developed on the basis of some agreed-upon weakness in the technique and not on the basis of some cerebral confusion!

A final point needs to be stressed: Whether or not students are found to use all of the steps in SQ3R is not important. Whether they learn and retain more is what the focus should be. Since people think differently, we can expect them to adapt techniques to their own styles of cognitive functioning. If we continue to not train our students to effectively learn, we will continue to deprive them <u>of something to adapt</u>.

References

Adams, *The use of direct instruction to teach an independent study method to skill deficient 5th grade students.* Unpublished doctoral disseration, University of Oregon, 1980.

Anderson, T. Study strategies and adjunct aids, in Spiro, R., Brace, B., and Brewer, W., (Eds.), *Theoretical Issues in Reading Comprehension*. Hillsdale, N.J.: Erlbaum Assoc., 1980, 483-502.

Beneke, W.M. and Harris, M.B. Teaching self-control of study behavior. *Behavior Research and Therapy,* 1972, *10*(1), 35-41.

Brazee. Ed. Teaching reading in social studies: Skill-centered versus content-centered. *Colorado Journal of Educational Research, 18,* (August, 1977), 23-25.

Briggs, R.D., Tosti, D.J., & Morely, R.M. Study habit modification and its effect on academic performance: A behavioral approach. *Journal of Educational Research*, 1971, *64*(8), 347-350.

Butler, J.P. *The effect of guidance in reading-study skills in content areas, on reading comprehension and course achievement.* Unpublished doctoral dissertation, University of Chicago, 1981.

Butler, T.H. *Effect of subject and training variables on the SQ3R study method.* Unpublished doctoral dissertation, Arizona State University, 1983.

Diggs, U.M. *The relative effectiveness of the SQ3R method, a mechanized approach and a combination method of teaching remedial reading to college freshmen.* Unpublished doctoral dissertation, West Virginia University, 1972.

Donald, M. The SQ3R method in grade seven. *Journal of Reading*, 1967, *11*, 33-35.

Eanet, M. An investigation of the READ reading/study procedure: Its rationale and efficacy. In P. David Pearson & Jane Hansen (Eds.) Reading: Disciplined inquiry in process and practice. *Twenty-Seventh Yearbook of the National Reading Conference*, 1978, 229-232.

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Ferrante-Alexander, D.J. *The effect of study skill training on the reading and retelling of 4th, 5th and 6th grade learning disabled students*. Unpublished doctoral dissertation, University of Minnesota, 1967.

Foreman, S. *Reading-study system and study management training in college academic skills*. Unpublished doctoral dissertation, University of Pittsburg, 1982.

Galloway, J. *A comparison of the effectiveness of two reading study techniques: the SQ3R and the HM study skills program Level I Mapping technique*. Unpublished docctoral dissertation, University of South Carolina, 1984.

Gurrola, S. *Determination of the relative effectiveness and efficiency of selected combinations of SQ3R study method components*. Unpublished doctoral dissertation, New Mexico State University, 1974.

Haislette, J.E. *Comparison of the effects of public and private commitment procedures within a behavioral contracting technique on the acquisition of study skills and attitudes*. Unpublished doctoral dissertation, University of Virginia, 1980.

Harris, M.B. & Trujillo, A.E. Improving study habits of junior high school students through self-management versus group discussion. Journal of Counseling Psychology, 1975, *22*, 513-517.

Holmes, J.T. *A comparison of two reading-study methods for college students*. Unpublished doctoral dissertation, University of Northern Colorado, 1972.

Johns, J.L. & McNamara, L.P. The SQ3R study technique: A forgotten research target. *Journal of Reading*, 1980, *23*, 705-708.

Martin, M.A. *An investigation into self-questioning as a study technique for colleege developmental reading students*. Unpublished doctoral dissertation, University of Georgia, 1983.

BEST COPY AVAILABLE

McNamara, L.P. *A study of cloze procedure as an alternative group instructional strategy in secondary school American Government classes*. Unpublished doctoral dissertation, Northern Illinois University, 1977.

Niple, M.L. *The relationship of different study methods to immediate and delayed comprehension*. Unpublished doctoral dissertation, Ohio State University, 1968.

Okey, L.J. *Achievement with two college textbook reading methods with considerations for locus of control influences*. Unpublished doctoral dissertation, West Virginia University, 1980.

Orlando, U.P. *The relative effectiveness of a modified version of SQ3R on university students' study behavior*. Unpublished doctoral dissertation, The Pennsylvania State University, 1978.

Powell, G. & Zulad, G. A SQ3R for secondary handicapped students. *Journal of reading*, 1982, *26*, (3), 262-263.

Robinson, R.P. *Effective study*. New York: Harper & Row, 1961.

Scappetici, F.T. *A study of SQ3R and select and recite reading and study skills methods in college classes*. Unpublished doctoral dissertation, Leigh University, 1977.

Slade, I.G. *Effects of reading-study strategies on reading comprehension and attitude toward science*. Unpublished doctoral dissertation, Auburn University, 1980.

Stetson, E. Improving textbook learning with S4R: A strategy for teachers, not students. *Reading Horizons*, 1982, *22*, (2), 129-135.

Stoodt, B.D. & Balbo, E. Integrating study skills instruction with content in a secondary classroom. *Reading World*, 1979, *18*, 247-252.

Synder, V. *Effects of study techniques on developmental college students' retention of textbook chapters*. Paper presented at the 68th annual meeting of the American Educational Research Association, April, 1984. ED 243 363

BEST COPY AVAILABLE

Wilmore, D.J. *A comparison of four methods of studying a college textbook.* Unpublished doctoral dissertation, University of Minnesota, 1967.

Wooster, G.F. *Teaching the SQ3R method of study: An investigation of the instructional approach.* Unpublished doctoral dissertation, Ohio State University, 1953.